Microprocessor based Electronic Polarization Controller

Features & Applications

FEATURES:

- Electronic polarization control
- Full PC control
- No hysteresis
- No moving parts
- Simple operation
- Any output SOP achievable
- Low insertion loss
- High return loss
- High extinction ratio maintenance

EXAMPLE APPLICATIONS

- Polarization control
- State of polarization scanning
- Component testing
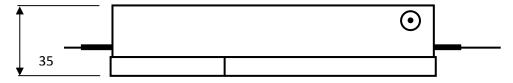- Sensor systems
- Optical fiber polarimetry

Product Overview

Based on the Phoenix Photonics polarization scanner, the controller offers the full PC control of the EPC/PCI combination, but integrated into a single package. Full state of polarization control is achieved by three cascaded variable fiber waveplates. The controller is all-fiber giving return loss, insertion loss and PDL advantages. Control of each individual waveplate describes a complete circle on the Poincaré sphere. The unit allows any SOP to be generated from any arbitrary input SOP. The controller has an internal microprocessor enabling each of the three waveplates can be individually controlled by a computer. The voltage applied to each waveplate, and the type and frequency of modulation can be adjusted. Voltage scanning options are: sine, ramp, square, and random.

Driver software to control up to 4 devices supplied with and easy to use GUI.

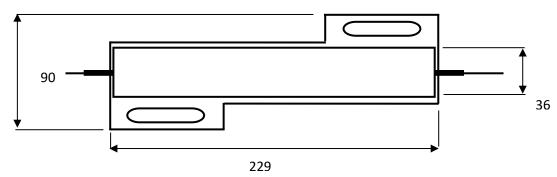| Wavelength range	nm	980, 1310, 1550, 2000
Insertion Loss[1]	dB	<0.8
PMD	ps	<0.15
Insertion loss variation[2]	dB	<0.02
Return Loss	dB	>70
Scan rate[4]	deg./s	150
PC interface		USB
Operating Temperature Range	^{0}C	-5 to 70
Storage Temperature	^{0}C	-40 to +85
Fiber type		SMF28, 900μm Jacket
Input & Output Fiber Lengths	mm	1000
Power		External mains 110V to 240V adapter to 15V/300mA DC.

Specification Notes

1. *Losses do not include connectors.*
2. *The variation of output power for full coverage of the Poincaré Sphere.*
3. *Analogue drive voltage, 0-10V gives 0-2pi differential phase shift for the waveplate.*
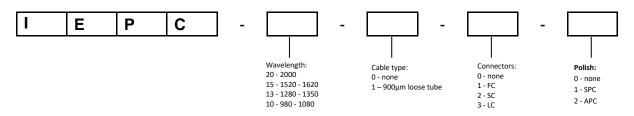4. *Scan rate is the rate of polarization change for a cycle of the Poincare sphere for each section*

PACKAGING STYLE:

All dimensions are approximate and may vary slightly, dimensions in mm.

Ordering Information

					Wavelength:		Cable type:		Connectors:		Polish:
I	E	P	C	-	20 - 2000	-	0 - none	-	0 - none	-	0 - none
					15 - 1520 - 1620		1 – 900μm loose tube		1 - FC		1 - SPC
					13 - 1280 - 1350				2 - SC		2 - APC
					10 - 980 - 1080				3 - LC		